

APPENDIX A

LIST OF PARTIES

I. IB Docket No. 99-81²⁶⁰

Comments

Aeronautical Radio, Inc.
 Association of Public-Safety Communications Officials-International, Inc. ("APCO")
 Association of American Railroads
 BellSouth Corporation
 Boeing Company ("Boeing")
 Bosch Telecom, Inc.
 Celsat America, Inc. ("Celsat")
 Century OCN Programming, Inc.
 Constellation Communications, Inc.
 Fixed Wireless Communications Coalition
 Globalstar, L.P.
 Hughes Communications Galaxy, Inc. and Hughes Communications, Inc.
 ICO Services Limited ("ICO")
 ICO USA Service Group (BT North America Inc., Hughes Telecommunications and Space Company, Telecomunicaciones de Mexico, TRW Inc.) ("ICO USA")
 Inmarsat Ltd.
 Iridium LLC
 Lynch, Timothy H.
 Mobile Communications Holdings, Inc.
 National Academies' Committee on Radio Frequencies
 National Telecommunications and Information Administration ("NTIA")
 PanAmSat Corporation
 Pegasus Development Corporation
 Personal Communications Industry Association
 Satellite Industry Association ("SIA")
 SBC Communications Inc.
 Society of Broadcast Engineers, Inc.
 TMI Communications and Company, Limited Partnership ("TMI")
 United States Coast Guard ("USCG")
 CITC, The Telecommunications Association
 WinStar Communications, Inc.
 Wireless Communications Association International, Inc.

Reply Comments

American Petroleum Institute
 Association of American Railroads
 Association for Maximum Service Television, Inc. and the National Association of Broadcasters
 BellSouth Corporation
 Boeing Company

²⁶⁰ The Establishment of Policies and Service Rules for the Mobile Satellite Service in the 2 GHz Band. [B Docket No. 99-81, *Notice of Proposed Rulemaking*, 14 FCC Rcd 4843 (1999) ("2 GHz NPRM"). Not all parties filing comments in response to the 2 GHz NPRM addressed 911 issue].

Celsat America, Inc.
Constellation Communications, Inc.
European Union/Delegation of the European Commission
Fixed Wireless Communications Coalition
GE American Communications, Inc.
Globalstar, L.P.
Hughes Communications Galaxy, Inc. and Hughes Communications, Inc.
ICO Services Limited
ICO US.4 Service Group (BT North America Inc., Hughes Telecommunications and Space Company
Telecomunicaciones de Mexico, TRW Inc.)
Inmarsat Ltd.
Iridium LLC
KaStar Satellite Communications Corp.
Mobile Communications Holdings, Inc.
National Telecommunications and Information Administration
PanAmSat Corporation
Satellite Industry Association
Society of Broadcast Engineers, Inc.
Titan Wireless
United Telecom Council (formerly UTC, The Telecommunications Association)
WinStar Communications, Inc.
Wireless Communications Association International, Inc.

Supplemental Comments

Association for Maximum Service Television, Inc. and the National Association of Broadcasters
Boeing Company
Celsat America, Inc.
Constellation Communications Holding, Inc. (formerly Constellation Communications, Inc.)
Fixed Wireless Communications Coalition
Globalstar, L.P.
ICO Services Limited
ICO USA Service Group (BT North America Inc., Telecomunicaciones de Mexico, TRW Inc.)
Inmarsat Ltd.
Iridium LLC
Mobile Communications Holdings, Inc.
TMI Communications and Company, Limited Partnership
United Telecom Council (formerly UTC, The Telecommunications Association)

Ex Parte Presentations

Association for Maximum Service Television, Inc. and the National Association of Broadcasters
AT&T Wireless Services, Inc.
BellSouth Corporation
Boeing Company
Celsat America, Inc.
Department of Defense
Final Analysis Inc.
Fixed Wireless Communications Coalition
Globalstar, L.P.
ICO Services Limited
Eagle River Investments LLC
ICO USA Service Group
Inmarsat Ltd.
Iridium LLC

Mobile Communications Holdings, Inc.
 STM Wireless, Inc.
 Teledesic LLC
 Wireless Communications Association International, Inc.

II. IB Docket No. 99-67

*A. Notice of Proposed Rulemaking*²⁶¹

Comments

Aeronautical Radio, Inc.
 AMSC Subsidiary Corporation ("AMSC")
 The Association of Public-Safety Communications Officials-International, Inc. ("APCO")
 The Boeing Company ("Boeing")
 COMSAT Corporation
 Constellation Communication,, Inc.
 Hushes Network Systems
 ICO Global Communications (Holdings) Limited ("ICO Global")
 Inmarsat Ltd.
 Iridium LLC
 Iridium North America
 Leo One USA Corporation
 L/Q Licensee, Globalstar, L.P., and Airtouch Satellite Services U. Inc. ("LG")
 LSC, Inc.
 Ministry of Posts and Telecommunication of Japan
 Motorola, Inc.
 The National Academies
 National Emergency Number Association ("NENA")
 National Search and Rescue Committee ("NSARC")
 National Telecommunications and Information Administration ("NTIA")
 Norcom Networks Corporation
 Orbital Communications Corporation ("ORBCOMM")
 Rockwell Collins, Inc.
 RTCA, Inc.
 The Satellite Industry Association ("SIA")
 Skybridge, LLC (late filed)
 Sea-Land Service, Inc.
 Teledesic LLC
 The U.S. GPS Industry Council
 United States Coast Guard ("USCG")

Reply Comments

AMSC Subsidiary Corporation

²⁶¹ See Amendment of Parts 2 and 25 to Implement the Global Mobile Personal Communications by Satellite (GMPCS) Memorandum of Understanding and Arrangements, IB Docket No. 99-67, *Notice of Proposed Rulemaking*, 14 FCC Rcd. 5871 (1999) ("GMPCS NPRM"). Not all parties filing comments in response to the GMPCS NPRM addressed 911 issue.

Chamber of Shipping of America (late-filed)
 Constellation Communications, Inc.
 Cornell University
 Global VSAT Forum (request for extension to file reply)
 Inmarsat Ltd.
 Iridium LLC
 L/Q Licensee, Globalstar, L.P., and Airtouch Satellite Services U.S., Inc
 Motorola, Inc.
 National Emergency Number Association
 National Telecommunications and Information Administration
 Norcom Networks Corporation
 The Satellite Industry Association
 Teledesic LLC
 TMI Communications and Company, L.P
 The U.S. GPS Industry Council

Ex Parte Presentations

L/Q Licensee, Globalstar, L.P., and Airtouch Satellite Services U.S., Inc
 LSC, Inc.

B. Public Notice²⁶²

Comments

Association of Public-Safety Communications Officials-International, Inc. ("APCO")
 The Boeing Company ("Boeing")
 Final Analysis Communication Services, Inc. and Orbital Communications Corporation
 ("FA/ORBCOMM")
 Globalstar USA, Inc.; Globalstar, L.P.; L/Q Licensee, Inc.; Qualcomm Incorporated ("Globalstar")
 ICO Services Limited ("ICO")
 Inmarsat Ltd. ("Inmarsat")
 Motient Services Inc. ("Motient")
 National Emergency Number Association ("NENA")
 SCC Communications Corp. ("SCC")
 Washington State 911 Program ("Washington State")

Reply Comments

The Boeing Company
 Globalstar USA, Inc.; Globalstar, L.P.; L/Q Licensee, Inc.; Qualcomm Incorporated
 ICO Services Limited
 National Emergency Number Association
 National Telecommunications and Information Administrations ("NTIA") (late-filed, April 11, 2001)
 SCC Communications Corp.

²⁶² International Bureau Invites Further Comment Regarding Adoption of 911 Requirements for Satellite Services. *Public Notice*, 16 FCC Rcd 3780 (2000) (*Satellite 911 Public Notice*).

En Parte Presentations and Other Filings

SCC Communications Corp (April 10, 2001 *ex parte* letter)

Ex Parte Meeting in IB Docket No. 99-67. Memorandum from Arthur Lechtman, Satellite and Radiocommunication Division, International Bureau. Federal Communications Commission to William F. Caton, Acting Secretary. February 22, 2002 (*Feb. 22 Ex Parte Memo*).

Inmarsat Ventures plc (May 28, 2002 *ex parte* letter) ("Inmarsat")

APPENDIX B

Initial Regulatory Flexibility Analysis
Further Notice of Proposed Rulemaking
CC Docket No. 94-102

127. As required by the Regulatory Flexibility Act, as amended (RFA),²⁶³ the Commission has prepared this Initial Regulatory Flexibility Analysis (IRFA) of the possible significant economic impact on a substantial number of small entities by the policies and rules proposed in this *Further Notice of Proposed Rulemaking (Further Notice)*, CC Docket No. 94-102 and IB Docket No. 99-67. Written public comments are requested on this IRFA. Comments must be identified as responses to the IRFA and must be filed by the deadlines for comments on the *Further Notice*. The Commission will send a copy of the *Further Notice*, including this IRFA, to the Chief Counsel for Advocacy of the Small Business Administration. See 5 U.S.C. § 603(a). In addition, the *Further Notice* and IRFA (or summaries thereof) will be published in the Federal Register.²⁶⁴

A. NEED FOR, AND OBJECTIVES OF, THE PROPOSED RULES

128. The *Further Notice* initiates a reevaluation of the scope of communications services that should provide access to emergency services. The *Further Notice* examines and seeks comment on the need to require compliance with the Commission's basic and enhanced 911 (E911) rules, or similar requirements, by various other mobile wireless and certain wireline voice and data services. The *Further Notice* considers whether existing services such as telematics or voice service provided by multi-line systems should be required to provide access to 911 service.²⁶⁵ The *Further Notice* also considers whether certain new services should be subject to any E911 requirements. The *Further Notice* additionally seeks comment on the impact that exclusion of these services and devices from the Commission's 911 rules may have on consumers, as well as the technological and cost issues involved in providing E911, taking into account the expectations of consumers for 911 service when they use these services and devices. The *Further Notice of Proposed Rulemaking* also seeks comment on a proposal to require mobile satellite service (MSS) providers (in particular, MSS provider offering real-time, interconnected two-way voice service) to establish emergency call centers to answer 911 emergency calls.

B. Legal Basis for Proposed Rules

129. The proposed action is authorized under Sections 1, 4(i), 7, 10, 201, 202, 108, 214, 222(d)(4)(A)-(C), 222(f), 222(g), 222(h)(1)(A), 222(h)(4)-(5), 251(e)(3), 301, 303, 308, 309(j), and 310 of the Communications Act of 1934, as amended, 47 U.S.C. §§ 151, 154(i), 157, 160, 201, 202, 208, 214, 222(d)(4)(A)-(C), 222(f), 222(g), 222(h)(1)(A), 222(h)(4)-(5), 251(e)(3), 301, 303, 308, 309(j), 310.

C. Description and Estimate of the Number of Small Entities To Which the Proposed Rules Will Apply

130. The RFA directs agencies to provide a description of and, where feasible, an estimate of the number of small entities that may be affected by the proposed rules, if adopted.²⁶⁶ The RFA generally

²⁶³ See 5 U.S.C. § 603. The RFA, see 5 U.S.C. §§ 601-612, has been amended by the Small Business Regulatory Enforcement Fairness Act of 1996 (SBREFA), Pub. L. No. 104-121, Title II, 110 Stat. 857 (1996) (CWAA).

²⁶⁴ See 5 U.S.C. § 603(a).

²⁶⁵ See *infra* n 5.

²⁶⁶ See 5 U.S.C. § 603(b)(3).

defines the term "small entity" as having the same meaning as the terms "small business," "small organization," and "small governmental jurisdiction." In addition, the term "small business" has the same meaning as the term "small business concern" under Section 3 of the Small Business Act.²⁶⁸ Under the Small Business Act, a "small business concern" is one that: (1) is independently owned and operated; (2) is not dominant in its field of operation; and (3) satisfies any additional criteria established by the Small Business Administration (SBA).²⁶⁹ A small organization is generally "any not-for-profit enterprise which is independently owned and operated and is not dominant in its field." Nationwide, as of 1992, there were approximately 275,801 small organizations.²⁷¹

131 The definition of "small governmental jurisdiction" is one with populations of fewer than 50,000.²⁷² There are 85,006 governmental entities in the nation.²⁷³ This number includes such entities as states, counties, cities, utility districts and school districts. There are no figures available on what portion of this number has populations of fewer than 50,000. However, this number includes 38,978 counties, cities and towns, and of those, 37,556, or ninety-six percent, have populations of fewer than 50,000.²⁷⁴ The Census Bureau estimates that this ratio is approximately accurate for all government entities. Thus, of the 85,006 governmental entities, we estimate that ninety-six percent, or about 81,600, are small entities that may be affected by our rules.

132. Individual voice services and devices that are examined as to appropriateness for 911 and E911 service provision include: mobile satellite service, telematics service, multi-line telephone systems, resold cellular and personnel communications service, pre-paid calling, disposable phone, automated maritime telecommunications systems, and emerging services and devices.

133. We have included small incumbent LECs in this RFA analysis. As noted above, a "small business" under the RFA is one that, *inter alia*, meets the pertinent small business size standard (e.g., a telephone communications business having 1,500 or fewer employees), and "is not dominant in its field of operation."²⁷⁵ The SBA's Office of Advocacy contends that, for RFA purposes, small incumbent LECs are not dominant in their field of operation because any such dominance is not "national" in scope.²⁷⁶ We have

²⁶⁷ 5 U.S.C. § 601(6)

²⁶⁸ 5 U.S.C. § 601(3) (incorporating by reference the definition of "small business concern" in the Small Business Act, 15 U.S.C. § 632). Pursuant to 5 U.S.C. § 601(3), the statutory definition of a small business applies "unless an agency, after consultation with the Office of Advocacy of the Small Business Administration and after opportunity for public comment, establishes one or more definitions of such term which are appropriate to the activities of the agency and publishes such definition(s) in the Federal Register."

²⁶⁹ 15 U.S.C. § 632.

²⁷⁰ *Id.* § 601(4)

²⁷¹ Department of Commerce, U.S. Bureau of the Census, 1992 Economic Census, Table 6 (special tabulation of data under contract to Office of Advocacy of the U.S. Small Business Administration).

²⁷² 5 U.S.C. § 601(5)

²⁷³ 1992 Census of Governments, U.S. Bureau of the Census, U.S. Department of Commerce.

²⁷⁴ *Id.*

²⁷⁵ 5 U.S.C. § 601(3).

²⁷⁶ See Letter from Jere W. Clover, Chief Counsel for Advocacy, SBA, to Chairman William E. Kennard, FCC (May 27, 1999). The Small Business Act contains a definition of "small business concern," which the RFA incorporates into its own definition of "small business." See 5 U.S.C. § 632(a) (Small Business Act); 5 U.S.C. 601(3) (RFA). SBA regulations interpret "small business concern" to include the concept of dominance on a national basis. 13 C.F.R. § 121.102(b).

therefore included small incumbent LECs in this RFA analysis, although we emphasize that this RFA action has no effect on the Commission's analyses and determinations in other, non-RFA contexts.

134. **Incumbent Local Exchange Carriers.** Neither the Commission nor the SBA has developed a specific small business size standard for providers of incumbent local exchange services. The closest applicable size standard under the SBA rules is for Wired Telecommunications Carriers. Under that standard, such a business is small if it has 1,500 or fewer employees.²⁷⁷ According to the FCC's *Telephone Trends Report* data, 1,329 incumbent local exchange carriers reported that they were engaged in the provision of local exchange services.²⁷⁸ Of these 1,329 carriers, an estimated 1,024 have 1,500 or fewer employees and 305 have more than 1,500 employees.²⁷⁹ Consequently, we estimate that the majority of providers of local exchange service are small entities that may be affected by the rules and policies adopted herein.

135. **Competitive Local Exchange Carriers.** Neither the Commission nor the SBA has developed a specific small business size standard for providers of competitive local exchange services. The closest applicable size standard under the SBA rules is for Wired Telecommunications Carriers. Under that standard, such a business is small if it has 1,500 or fewer employees.²⁸⁰ According to the FCC's *Telephone Trends Report* data, 532 companies reported that they were engaged in the provision of either competitive access provider services or competitive local exchange carrier services.²⁸¹ Of these 532 companies, an estimated 411 have 1,500 or fewer employees and 121 have more than 1,500 employees.²⁸² Consequently, the Commission estimates that the majority of providers of competitive local exchange service are small entities that may be affected by the rules.

136. **Competitive Access Providers.** Neither the Commission nor the SBA has developed a specific size standard for competitive access providers (CAPS). The closest applicable standard under the SBA rules is for Wired Telecommunications Carriers. Under that standard, such a business is small if it has 1,500 or fewer employees.²⁸³ According to the FCC's *Telephone Trends Report* data, 532 CAPs or competitive local exchange carriers and 55 other local exchange carriers reported that they were engaged in the provision of either competitive access provider services or competitive local exchange carrier services.²⁸⁴ Of these 532 competitive access providers and competitive local exchange carriers, an estimated 411 have 1,500 or fewer employees and 121 have more than 1,500 employees.²⁸⁵ Of the 55 other local exchange carriers, an estimated 53 have 1,500 or fewer employees and 2 have more than 1,500 employees.²⁸⁶ Consequently, the Commission estimates that the majority of small entity CAPS and the majority of other local exchange carriers may be affected by the rules.

137. **Local Resellers.** The SBA has developed a specific size standard for small businesses

²⁷⁷ 13 C.F.R. § 121.201, NAICS code 513310.

²⁷⁸ FCC, Wireline Competition Bureau, Industry Analysis and Technology Division, *Trends in Telephone Service*, at Table 5.3, p. 5-5 (May 2002) (*Telephone Trends Report*).

²⁷⁹ *Id.*

²⁸⁰ 13 C.F.R. § 111.201, NAICS code 513310.

²⁸¹ *Telephone Trends Report*, Table 5.3.

²⁸² *Id.*

²⁸³ 13 C.F.R. § 121.201, NAICS code 513310.

²⁸⁴ *Telephone Trends Report*, Table 5.3.

²⁸⁵ *Id.*

²⁸⁶ *Id.*

within the category of Telecommunications Resellers. Under that standard, such a business is small if it has 1,500 or fewer employees.²⁸⁷ According to the FCC's *Telephone Trends Report* data, 134 companies reported that they were engaged in the provision of local resale services.²⁸⁸ Of these 134 companies, an estimated 131 have 1,500 or fewer employees and 3 have more than 1,500 employees.²⁸⁹ Consequently, the Commission estimates that the majority of local resellers may be affected by the rules.

138. **Toll Resellers.** The **SBA** has developed a specific **size** standard for small businesses within the category of Telecommunications Resellers. Under that SBA definition, such a business is small if it has 1,500 or fewer employees.²⁹⁰ According to the FCC's *Telephone Trends Report* data, 576 companies reported that they were engaged in the provision of toll resale services.²⁹¹ Of these 576 companies, an estimated 538 have 1,500 or fewer employees and 38 have more than 1,500 employees.²⁹² Consequently, the Commission estimates that a majority of toll resellers may be affected by the rules.

139. **Interexchange Carriers.** Neither the Commission nor the SBA has developed a specific size standard for small entities specifically applicable to providers of interexchange services. The closest applicable size standard under the SBA rules is for Wired Telecommunications Carriers. Under that standard, such a business is small if it has 1,500 or fewer employees.²⁹³ According to the FCC's *Telephone Trends Report* data, 224 carriers reported that their primary telecommunications service activity was the provision of interexchange services.²⁹⁴ Of these 229 carriers, an estimated 181 have 1,500 or fewer employees and 48 have more than 1,500 employees.²⁹⁵ Consequently, we estimate that a majority of IXC's may be affected by the rules.

140. **Operator Service Providers.** Neither the Commission nor the SBA has developed a specific size standard for small entities specifically applicable to operator service providers. The closest applicable size standard under the SBA rules is for Wired Telecommunications Carriers. Under that standard, such a business is small if it has 1,500 or fewer employees.²⁹⁶ According to the FCC's *Telephone Trends Report* data, 22 companies reported that they were engaged in the provision of operator services.²⁹⁷ Of these 22 companies, an estimated 20 have 1,500 or fewer employees and two have more than 1,500 employees.²⁹⁸ Consequently, the Commission estimates that a majority of local resellers may be affected by the rules.

141. **Prepaid Calling Card Providers.** The SBA has developed a size standard for small businesses within the category of Telecommunications Resellers. Under that size standard, such a

²⁸⁷ 13 C.F.R. § 121.201, NAICS code 513330.

²⁸⁸ *Telephone Trends Report*, Table 5.3.

²⁸⁹ *Id.*

²⁹⁰ 13 C.F.R. § 121.201, NAICS code 513330.

²⁹¹ *Telephone Trends Report*, Table 5.3.

²⁹² *Id.*

²⁹³ 13 C.F.R. § 121.201, NAICS code 513310.

²⁹⁴ *Telephone Trends Report*, Table 5.3.

²⁹⁵ *Id.*

²⁹⁶ 13 C.F.R. § 121.201, NAICS code 513310.

²⁹⁷ *Telephone Trends Report*, Table 5.3.

²⁹⁸ *Id.*

business is small if it has 1,500 or fewer employees.²⁹⁹ According to the FCC's *Telephone Trends Report* data, 32 companies reported that they were engaged in the provision of prepaid calling cards.³⁰⁰ Of these 32 companies, an estimated 31 have 1,500 or fewer employees and one has more than 1,500 employees.³⁰¹ Consequently, the Commission estimates that a majority of prepaid calling providers may be affected by the rules.

142. **Mobile Satellite Service Carriers.** Neither the Commission nor the U.S. Small Business Administration has developed a small business size standard specifically for mobile satellite service licensees. The appropriate size standard is therefore the SBA standard for Satellite Telecommunications, which provides that such entities are small if they have 512.5 million or less in annual revenues.³⁰² Currently, nearly a dozen entities are authorized to provide voice MSS in the United States. We have ascertained from published data that four of those companies are not small entities according to the SBA's definition,³⁰³ but we **do** not have sufficient information to determine which, if any, of the others are small entities. We anticipate issuing several licenses for 2 GHz mobile earth stations that would be subject to the requirements we are adopting here. We do not know how many of those licenses will be held by small entities, however, as we do not yet know exactly how many 2 GHz mobile-earth-station licenses will be issued or who will receive them.³⁰⁴ The Commission notes that small businesses are not likely to have the financial ability to become MSS system operators because of high implementation costs, including construction of satellite space stations and rocket launch, associated with satellite systems and services. Still, we request comment on the number and identity of small entities that would be significantly impacted by the proposed rule changes.

143. **Other Toll Carriers.** Neither the Commission nor the SBA has developed a specific size standard for small entities specifically applicable to "Other Toll Carriers." This category includes toll carriers that do not fall within the categories of interexchange carriers, operator service providers, prepaid calling card providers, satellite service carriers, or toll resellers. The closest applicable size standard under the SBA rules is for Wired Telecommunications Carriers. Under that standard, such a business is small if it has 1,500 or fewer employees.³⁰⁵ According to the FCC's *Telephone Trends Report* data, 42

²⁹⁹ 13 C.F.R. § 121.201, NAICS code 513330.

³⁰⁰ *Telephone Trends Report*, Table 5.3.

³⁰¹ *Id.*

³⁰² 13 C.F.R. § 121.201, North American Industry Classification System ("NAICS") code 51740, formerly NAICS code 513340.

³⁰³ Comsat Corporation, Globalstar USA, Honeywell International, Inc., and Mobile Satellite Ventures Subsidiary LLC ("MSVS") each holds one of the current licenses for 1.6 GHz mobile satellite stations. Comsat Corporation reported annual revenue of \$618 million in its most recent annual report to the U.S. Securities and Exchange Commission ("SEC"). Globalstar USA (formerly AirTouch Satellite Services) is a wholly-owned subsidiary of Vodafone Group Plc. In an annual report filed with the SEC, Vodafone reported revenue of 10 billion pounds sterling for the year ending March 31, 2001. In another annual report filed with the SEC, Honeywell International Inc. reported receiving sales revenue of \$23.7 billion in 2001. MSVS is wholly owned by a limited partnership that is 48.1% owned by Motient Corporation and 39.9% owned by a limited partnership controlled by a wholly-owned subsidiary of BCE, Inc. In an annual report filed with the SEC, Motient reported revenue of \$93.3 billion for calendar year 2001. BCE, Inc. reports in its corporate website, www.bce.ca/en/Investors/corporate/fast/, that it received \$21.1 billion of revenue in 2001.

³⁰⁴ The Commission has issued space-station licenses for eight Mobile Satellite Service systems that would operate with 2 GHz mobile earth stations. Although we know the number and identity of the space-station licensees, neither the number nor the identity of future 2 GHz mobile-earth-station licensees can be determined from that data.

³⁰⁵ 13 C.F.R. § 121.201, NAICS code 513310.

carriers reported that they were engaged in the provision of "Other Toll Services."³⁰⁶ Of these 42 carriers, an estimated 37 have 1,500 or fewer employees and five have more than 1,500 employees.³⁰⁷ Consequently, the Commission estimates that a majority of "Other Toll Carriers" may be affected by the rules.

144. **Wireless Service Providers.** The SBA has developed a size standard for small businesses within the two separate categories of Cellular and Other Wireless Telecommunications or Paging. Under that standard, such a business is small if it has 1,500 or fewer employees.³⁰⁸ According to the FCC's *Telephone Trends Report* data, 1,761 companies reported that they were engaged in the provision of wireless service.³⁰⁹ Of these 1,761 companies, an estimated 1,175 have 1,500 or fewer employees and 586 have more than 1,500 employees. Consequently, we estimate that a majority of wireless service providers may be affected by the rules.

D. Description of Projected Reporting, Recordkeeping, and Other Compliance Requirements for Small Entities.

145. The reporting, recordkeeping, or other compliance requirements ultimately adopted will depend on the rules adopted and the services subject to those rules. First, any and all of the affected entities who the Commission finds appropriate to provide 911 and E911 services (See General Criteria, for example, in paragraphs 12-15 of the *Further Notice*) would need to comply with the Commission's basic or enhanced 911 rules. This would involve a schedule for implementing 911 and E911 service, and possibly regulations mandating the provision of automatic number identification (ANI), possible software modification to assist in recognition of single or multiple emergency numbers, and provision of automatic location information (ALI) and interference precautions as well as regulations specific to individual services. Additionally, paragraphs 17-27 of the *Further Notice* propose that all Mobile Satellite Service (MSS) licensees provide real-time, two-way, switched voice service that is interconnected with the public switched network establish national call centers to which all subscriber emergency calls are routed. Call center personnel, and would then determine the nature of the emergency and forward the call to an appropriate Public Safety Answering Point (PSAP). As noted in paragraph 14 of the *Further Notice*, the Commission invites comment on how the various services at issue, *i.e.* individual voice services and devices, relate to the provision of access to emergency services for persons with disabilities. (Paragraph 14 of the *Further Notice*.)

146. The *Further Notice*, in paragraphs 57-80, considers possible 911 and E911 regulation for the telematics service. Telematics can be generally defined as the integrated use of location technology and wireless communication to enhance the functionality of motor vehicles. In that regard, paragraphs 65-73 of the *Further Notice* analyzes the plus and minuses and prospective regulations associated with telematics systems providing access to PSAPs through an intermediary or jointly packaged mobile voice service. Paragraph 70, suggests that telematics systems give notice to consumers regarding any current limitations of telematics service in directly transmitting emergency information to a PSAP. Paragraphs 74-75 suggest a requirement that telematics providers deliver automatic crash notification data to PSAPs. This requirement raises possible issues of technical modifications and coordination between telematics providers and PSAPs.

147. The *Further Notice*, in paragraphs 81-91, examines whether to require multi-line telephone systems, including wireline, wireless, and Internet Protocol-based systems, to deliver call-back

³⁰⁶ *Telephone Trends Report*, Table 5.3

³⁰⁷ *Id.*

³⁰⁸ 13 C.F.R. § 121.201, NAICS code 513322

³⁰⁹ *Telephone Trends Report*, Table 5.3

and location information. Possible requirements that the *Further Notice* suggests if the Commission decides that multi-line telephones systems should provide these services include technical standards as discussed in paragraphs 86-90 of the *Further Notice*. Paragraphs 91-97 of the *Further Notice* discuss issues that arise when consumers buy service from carriers and other service providers that resell minutes of use on facilities-based wireless carriers' networks. In that regard, the *Further Notice* raises the possibility of requiring the underlying facilities-based licensee to ensure that its resellers offer basic and E911 service compatible with its method of providing these services, or whether the resellers should be held accountable. Similarly, paragraphs 98-102 seek comment on whether the Commission should impose E911 requirements directly on pre-paid calling providers that are not also licensees or whether the underlying licensee should be required to ensure compliance with the E911 rules by the pre-paid calling provider.

148. Paragraphs 103-106 of the *Further Notice* discuss the possibility of access to emergency service by consumers who purchase disposable mobile handsets. In this case, the *Further Notice* notes that disposable handsets are a new product offering and as such, the Commission has little information on these devices. However, the *Further Notice* invites comment on whether, if disposable phone service is determined to be appropriate for offering 911 and E911 services, requiring mobile wireless service providers to ensure that the handsets used to access their networks comply with the 911 and E911 rules is sufficient or whether the Commission should place the burden for compliance on manufacturers of these handsets. If it is also determined that these handsets do not provide PSAPs with an opportunity to contact the handset user for further critical location information if necessary, some type of regulatory solution, such as a readily identifiable code to notify the PSAP that the incoming call is placed from a handset which does not offer call-back capability, could be adopted. The *Further Notice* also seeks comment on whether to extend 911 and E911 regulation to automated maritime telecommunications systems (paragraphs 107-110) and to emerging voice services and devices (paragraphs 111-115).

149. Other regulations and requirements are possible for those services discussed in the *Further Notice* found suitable for 911 and E911 service. Such rules and requirements could be found appropriate, based on comment filed in response to the *Further Notice* and would be designed to meet the consumer needs and licensee situations in each service and service area.

E. Steps Taken to Minimize Significant Economic Impact on Small Entities, and Significant Alternatives Considered

150. The KFA requires an agency to describe any significant alternatives that it has considered in reaching its proposed approach, which may include the following four alternatives (among others): (1) the establishment of differing compliance or reporting requirements or timetables that take into account the resources available to small entities; (2) the clarification, consolidation, or simplification of compliance or reporting requirements under the rule for small entities; (3) the use of performance, rather than design, standards; and (4) an exemption from coverage of the rule, or any part thereof, for small entities.⁵¹⁰

151. The critical nature of the 911 and E911 proceeding, limit the Commission's ability to provide small carriers with a less burdensome set of E911 regulations than that placed on large entities. A delayed or less than adequate response to an E911 call can be disastrous regardless of whether a small carrier or a large carrier is involved. The various licensees scrutinized in the *Further Notice* have been exempt to date from the Commission's 911 and E911 regulations as the Commission sought information from which to judge the appropriateness of requiring that those services provide 911 and E911 service. The *Further Notice* continues this examination and reflects the Commission's concern that only those

⁵¹⁰ See 5 U.S.C. § 603.

entities that can reasonably be expected to provide emergency services, financially and otherwise, be asked to provide this service. The *Further Notice* affords small entities another opportunity to comment on the appropriateness of the affected services providing emergency services and on what the Commission can do to minimize the regulatory burden on those entities who meet the Commission's criteria for providing such service.

152. Throughout the *Further Notice*, the Commission tailors its request for comment to devise a prospective regulatory plan for the affected entities, emphasizing the individual needs of the service providers and manufacturers as well as the critical public safety needs at the core of this proceeding. The Commission will consider all of the alternatives contained not only in the *Further Notice*, but also in the resultant comments, particularly those relating to minimizing the effect on small businesses.

153. The most obvious alternatives raised in the *Further Notice* are whether the services under discussion should be required to comply with the Commission's basic and enhanced 911 rules or whether the Commission should continue to exempt these entities from providing this service. The *Further Notice*, to assist in this discussion, suggests, in paragraphs 12-15, criteria to determine the appropriateness of each service under consideration to provide emergency services. These criteria are open for comment and this provides an excellent opportunity for small entity commenters and others concerned with small entity issues. Again, we seek comment to determine the appropriate service groups to provide critical services.

154. Along these lines, discussion of criteria and alternatives could focus on implementation schedules. In discussing each of the prospective entities and soliciting further information, throughout the *Further Notice* the Commission invites comment on the schedule for implementing 911 and E911 services which best meets the abilities, technically and financially suitable to the individual entities. In the past, the Commission has best been able to offer affected small and rural entities some relief from E911 by providing small entities with longer implementation periods than larger, more financially flexible entities that are better able to buy the equipment necessary to successful 911 and E911 implementation and to first attract the attention of equipment manufacturers.

155. In its discussion of MSS, the *Further Notice* recognizes that satellite carriers face unique technical difficulties in implementing both basic and enhanced 911 features. Thus, in paragraphs 22-26, the *Further Notice* examines the use of call centers in response to this problem. Paragraph 25 of the *Further Notice* notes that several commenters, thus far, have indicated that MSS callers tend to be located in remote areas where no PSAP may be available. The *Further Notice* suggests, alternative solutions to this problem noting that, in the context of the 911 Act proceeding, stating that in areas where no PSAP has been designated, carriers still have an obligation not to block 911 calls and clarifying where such calls can be directed when no designated PSAP exists. There are a number of alternatives raised in the *Further Notice* in discussing the specifics of the calling center alternative. For example, should the Commission require carriers to relay automatically available location information to emergency call centers, and what reasonably achievable accuracy standards could be established for this location information?

156. Paragraphs 30-32 of the *Further Notice* recognize that high costs are associated with modifying satellite network infrastructures to accommodate E911 emergency call information and route it to appropriate PSAPs. These paragraphs discuss alternate solutions suggested in the comments to date, and request further comment aimed at reducing such costs. For example, some carriers argue that network modifications are necessary to forward ANI and ALI data, such as retrofitting switches throughout the network and making costly private trunking arrangements between earth stations and PSAPs. One commenter suggested that the retrofit costs could be reduced if (1) a single, central emergency call service could receive calls for the nation, or (2) each of the 50 states has a single point of emergency contact. Additionally, in paragraphs 35-41, the *Further Notice* considers alternatives for providing ALI. The *Further Notice* discusses in Coast Guard recommendation that the Commission require strict ALI accuracy standards for GMPCS. There are a number of issues and alternatives relating

to the need for GPS that could conceivably impact small entities

157. The *Further Notice*, in paragraphs 49-54, discusses international issues connected to MSS. The *Further Notice* seeks comment on a number of related alternatives, including whether resolution of international standards should in any way further delay adoption of a call center requirement or E911 rules for MSS, and on liability issues in connection with recognition of multiple emergency access codes. Finally, in regards to possible MSS emergency service requirements, the *Further Notice*, in paragraph 55, considers integration of the Ancillary Terrestrial Component.

158. In considering possible 911 and E911 regulation for telematics systems, the *Further Notice*, in paragraphs 64-71, questions whether a telematics call-center approach to 911 calls might be more appropriate than an approach based solely on 911 calls placed through a jointly packaged mobile voice service. Paragraphs 74-75 of the *Further Notice* weigh the benefits and costs involved in requiring telematics providers to deliver automatic crash notification data to PSAPs. Further, paragraph 80 of the *Further Notice* considers whether the Commission's legal authority might lead it to impose requirements directly on telematics providers or equipment manufacturers.

159. The *Further Notice*, in paragraphs 81-91, examines potential 911 and E911 requirements for multi-line telephone systems. In that regard, the Commission considers whether to impose such regulations on a national basis or whether it is sufficient to rely on actions by state and local governments, associations, and private entities to ensure reliable coverage. The National Emergency Number Association, for example, has proposed model legislation that would allow states, through state legislation, to adopt many of the standards and protocol associated with delivering E911 services through multi-line systems. Paragraph 89 of the *Further Notice* looks at an E911 consensus group proposal regarding multi-line systems and delivery of call-back and location information to an appropriate PSAP. The *Further Notice* again questions whether it would be more appropriate to regulate equipment manufacturers in the multi-line context.

160. In considering possible basic and enhanced 911 requirements for resold cellular and personal communications services, the *Further Notice*, in paragraphs 92-97, weighs whether to impose a more express obligation on either the reseller or the underlying licensee to ensure compliance with the E911 rules.

F. Federal Rules that Overlap, Duplicate, or Conflict with the Proposed Rules

161. None